

CLAIMS

1. A diagnostic method for detecting infection with
an avian influenza virus of a specific epidemic strain
5 (HxNy) comprising the steps of:

- providing a recombinant antigen comprising an
amino acid sequence of a neuraminidase protein (NAy) or
a fragment thereof;
- 10 - contacting said antigen with a specimen of
biological fluid from an animal to be tested; and
- determining whether the antigen has any anti-
neuraminidase antibodies bound thereto by means of a
positivity detection test.

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2. A diagnostic method according to Claim 1 wherein
the antigen is encoded by a nucleotide sequence derived
from the genome of an avian influenza virus with
epidemic subtype (HxNy).

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3. A diagnostic method according to Claim 1 or 2
wherein the antigen is obtainable by expression in
insect cells using a baculovirus vector.

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4. A diagnostic method according to any one of the
preceding claims wherein the method is capable of

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discriminating between infected animals and vaccinated animals.

5. A diagnostic method according to any one of the
5 preceding claims wherein the specimen of biological fluid is from an animal which has been vaccinated against avian influenza.

6. A diagnostic method according to any one of the
10 preceding claims wherein the detection test is carried out on specimens of biological fluid from a population of animals at least some of which have been subjected to vaccination by means of a heterologous vaccine characterized by the same subtype of viral
15 haemagglutinin Hax and a different subtype of neuraminidase Nay.

7. A diagnostic method according to any one of the Claims 1 to 6 in which said test for the detection of
20 positivity is an immunofluorescence or immunoperoxidase test.

8. A diagnostic method according to any one of the Claims 1 to 6 in which said test for the detection of
25 positivity is an ELISA test.

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9. A diagnostic method according to any one of the Claims 1 to 6 in which said test for the detection of positivity is a colour test that is adapted to be carried out on the field by means of an inert support
5 with said antigen adsorbed on.

10. A process for vaccinating animals against avian influenza virus infection with specific epidemic strain HxNy comprising the steps of:

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- preparing a heterologous vaccine characterized by the same subtype of viral haemagglutinin Hax and a different subtype of neuraminidase Naz;

- administering said vaccine to at least one group
15 of animals selected from a population at risk of infection; and

- determining whether an animal is infected with the virus using a diagnostic method according to any one of Claims 1 to 9.

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11. A vaccination process according to claim 10, in which said vaccine is a natural vaccine obtained by inactivating a natural virus.

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12. A diagnostic kit for detecting infection with avian influenza virus with epidemic subtype (HxNy), comprising:

- 5 - a solid support of an inert material;
- a recombinant antigen comprising an amino acid sequence of a neuraminidase protein NAY or a fragment thereof in a state that is substantially non modified as compared with that of the specific avian influenza
- 10 virus strain (HxNy), said antigen being associated onto said solid support; and
- a reagent that is adapted to colorimetrically evidence the positivity to infection in the presence of anti-NAY antibodies contained in a biological fluid of
- 15 an animal.

13. A diagnostic kit according to Claim 12 wherein the kit is capable of discriminating between infected animals and vaccinated animals.

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14. A diagnostic kit according to Claim 12 or 13, in which said support is selected from the group comprising: latex spheres, plastic supports.